WE CLAIM:

1. A disk drive comprising:

(a) a disk;

(b) a slider comprising a transducer actuated over the disk for generating a write signal when writing data to the disk and for generating a read signal when reading data from the disk; and

(c) a disk controller for generating a pole tip protrusion (PTP) measurement by:

writing a first data sequence along a first section of the disk;

reading the first data sequence from the first section during a first read operation and generating a first signal measurement;

heating the transducer by writing a second data sequence along a second section of the disk preceding the first section, wherein heating the transducer causes at least part of the slider to protrude toward the disk;

while the part of the slider is protruding toward the disk, reading the first data sequence from the first section during a second read operation and generating a second signal measurement; and

generating the PTP measurement in response to the first and second signal measurements.

2. The disk drive as recited in claim 1, wherein the first data sequence comprises an alternating sequence of high frequency magnetic transitions and low frequency magnetic transitions.

3. The disk drive as recited in claim 1, wherein the first and second sections are aligned along a circumferential path.

4. The disk drive as recited in claim 1, wherein:

(a) the first section is aligned along a first circumferential path; and

(b) the second section is aligned along a second circumferential path radially offset from the first circumferential path.

5. The disk drive as recited in claim 4, wherein:

(a) the transducer comprises a read element and a write element, wherein the read element is radially offset from the write element; and

(b) the disk controller employs a micro-jog value for aligning the read element along the first circumferential path while the write element writes the second data sequence along the second circumferential path.

6. The disk drive as recited in claim 1, further comprising a read channel comprising write gate circuitry for enabling a write gate while writing the second data sequence along the second circumferential path.

7. The disk drive as recited in claim 1, further comprising a read channel comprising read gate circuitry for enabling a read gate during the second read operation after writing the second data sequence along the second circumferential path.

8. The disk drive as recited in claim 1, wherein the disk controller:

(a) filters the read signal during the first read operation to generate a first harmonic component and a second harmonic component;

(b) filters the read signal during the second read operation to generate a third harmonic component and a fourth harmonic component; and

(c) generates the PTP measurement in response to the first, second, third and forth harmonic components.

9. The disk drive as recited in claim 8, wherein the disk controller:

(a) computes a difference between the first harmonic component and the second harmonic component to generate a first value;

(b) computes a difference between the third harmonic component and the fourth harmonic component to generate a second value; and

(c) generates the PTP measurement by computing a difference between the first and second values.

10. A method of generating a pole tip protrusion (PTP) measurement for a disk drive, the disk drive comprising a disk and a slider having a transducer actuated over the disk for generating a write signal when writing data to the disk and for generating a read signal when reading data from the disk, the method comprising the steps of:

(a) writing a first data sequence along a first section of the disk;

(b) reading the first data sequence from the first section during a first read operation and generating a first signal measurement;

(c) heating the transducer by writing a second data sequence along a second section of the disk preceding the first section, wherein heating the transducer causes at least part of the slider to protrude toward the disk;

(d) while the part of the slider is protruding toward the disk, reading the first data sequence from the first section during a second read operation and generating a second signal measurement; and

(e) generating the PTP measurement in response to the first and second signal measurements.

11. The method as recited in claim 10, wherein the first data sequence comprises an alternating sequence of high frequency magnetic transitions and low frequency magnetic transitions.

12. The method as recited in claim 10, wherein the first and second sections are aligned along a circumferential path.

13. The method as recited in claim 10, wherein:

(a) the first section is aligned along a first circumferential path; and

(b) the second section is aligned along a second circumferential path radially offset from the first circumferential path.

14. The method as recited in claim 13, wherein:

(a) the transducer comprises a read element and a write element, wherein the read element is radially offset from the write element; and

(b) further comprising the step of aligning the read element along the first circumferential path using a micro-jog value while the write element writes the second data sequence along the second circumferential path.

15. The method as recited in claim 10, further comprising the steps of:

(a) filtering the read signal during the first read operation to generate a first harmonic component and a second harmonic component;

(b) filtering the read signal during the second read operation to generate a third harmonic component and a fourth harmonic component; and

(c) generating the PTP measurement in response to the first, second, third and forth harmonic components.

16. The method as recited in claim 15, further comprising the steps of:

(a) computing a difference between the first harmonic component and the second harmonic component to generate a first value;

(b) computing a difference between the third harmonic component and the fourth harmonic component to generate a second value; and

(c) computing a difference between the first and second values.